Business Day

The New York Times

FRIDAY, SEPTEMBER 15, 2000

A Dwindling Faith In Deregulation

New Ways to Harness Electricity

By NEELA BANERJEE

Over a few sultry days in the summer of 1997, the state of Wisconsin got an early taste of the electricity shortages that now threaten several other regions of the country. An unusually large number of nuclear plants that supply the northern Midwest were closed for maintenance just as an unexpected heat wave drifted into the area. Wisconsin Electric, which serves Milwaukee, shut off electricity to 80 businesses; every few hours, it beseeched consumers to limit their energy use.

Wisconsin Electric averted blackouts, but the scare profoundly changed the state's approach to deregulating the power industry, a process it had begun to explore only a year earlier. Like many other utilities, Wisconsin Electric initially pushed for what it and others called the Big Bang: state regulators giving up control over the production and pricing of electricity almost immediately.

But after the 1997 power shortage, Wisconsin Electric, along with most local businesses and consumer advocacy groups, began to support a go-slow approach to deregulation, first building in an extra margin of reliable power before encouraging the state to remove its decades-old grip on the electricity industry.

Lately, the rest of the country has been drawing the same conclusion. Just like Wisconsin, several other states have lost their early faith in the instantaneous, smooth creation of a free and fair electricity market. Deregulation has faltered as surging consumer demand outstrips the supply of electricity, and regulators and utilities scramble to cope with successive summers of price volatility and power failures.

More than a year ago, the wholesale price of electricity charged by power plants in the Midwest surged to $6,000 a megawatt-hour, compared with average costs of $21 to $22 for the same amount of power. Con Ed customers in New York paid 43 percent more for electricity this June than last year. Prices have spiked elsewhere as well.

And when rolling blackouts rippled through Silicon Valley and electricity

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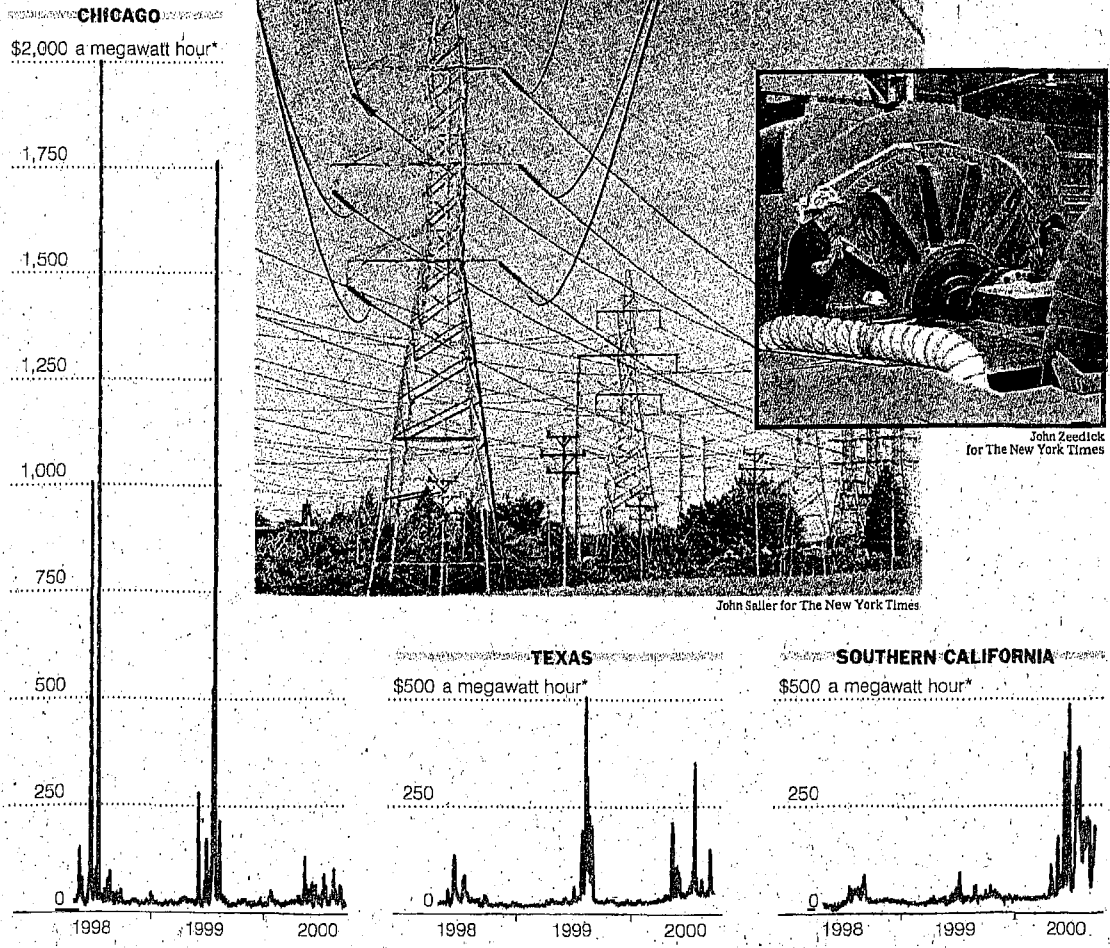
Shocks to The System

In deregulated electricity markets, prices have been far more volatile than expected, at times jumping to extraordinary levels during shortages.



*Volume-weighted wholesale spot prices for on-peak, next-day delivery of a megawatt-hour of electricity.

Sources: Bloomberg Financial Markets; Cambridge Energy Research Associates

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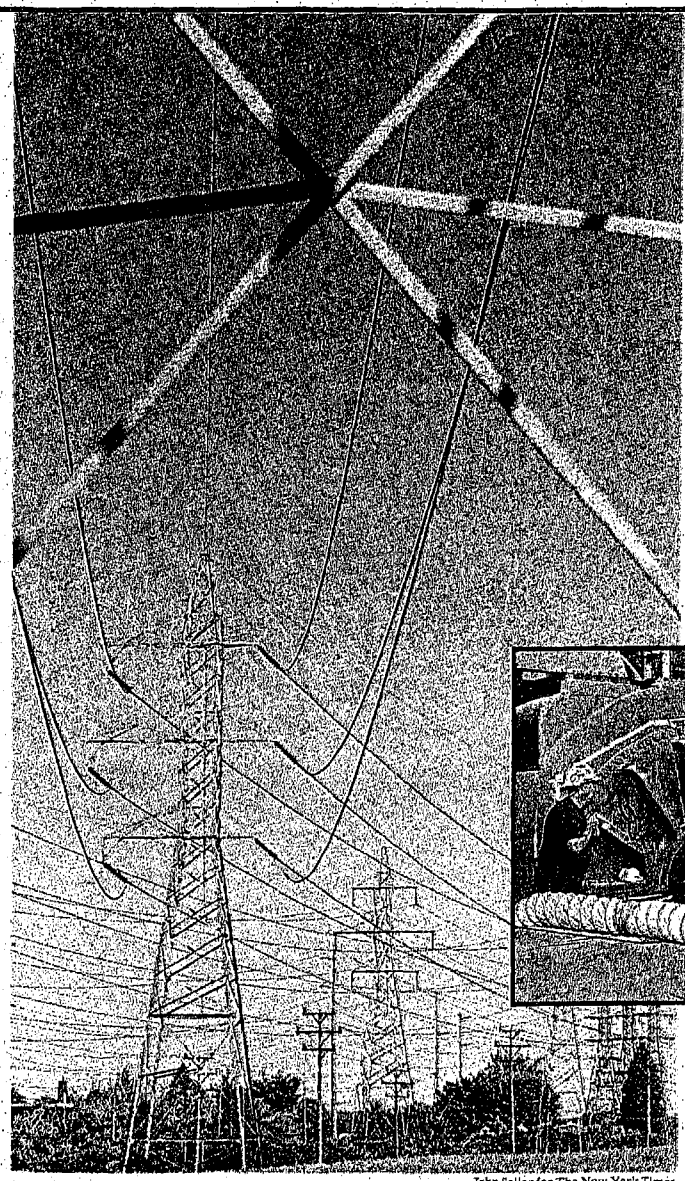

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Individual states are trying to find answers to the problem of deregulating the electricity industry. Power lines in Wisconsin, left, are symbols of a state that is trying to revamp the transmission sector. In Pennsylvania, where a power plant is being built in Lebanon, below, the government is involved with the market at every step.

States Seek New Ways to Harness Electricity

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bills doubled in San Diego over several weeks this summer, California's pioneering approach to deregulation came to embody what many see as the failings of the process.

Despite the second thoughts about deregulation, few experts expect a return to the days of strict government control. A world in which various power generators compete openly to provide electricity at market prices still offers the prospect of both lower costs for business and consumers and higher profits for utilities than is possible under the traditional, more inefficient system in which monopoly suppliers are supervised by government regulators.

"California is an indication to the rest of us that we need to do our homework to make deregulation work," said Dick Olson, legal counsel with the Wisconsin Industrial Energy Group, an association of large companies. "Some people want to stop the process, but the genie is out of the bottle."

But getting from here to there is proving far more difficult than expected. Lacking a clear federal approach, states are finding their own way and, in the process, casting doubt on some early promises.

"Deregulation was definitely oversold to consumers by many people," said Severin Borenstein, director of the Energy Institute at the University of California at Berkeley. "To economists and a few others, deregulation was a calculated experiment, and we knew it would have its costs."

Historically, a regional electric utility, which was owned by investors and regulated by the state, generated power, transmitted it over high-voltage lines and then distributed it in low-voltage form into homes and businesses. In broad terms, deregulation calls for separating generation, transmission and distribution into distinct businesses.

Deregulation advocates argued that if power plants were sold to private owners, they would compete among themselves to sell power to transmission and distribution companies at cheaper prices, driving down the cost of electricity. But that outcome was predicated on the realities of the mid-1990's, when power plants had spare capacity.

But with few power plants coming on line recently, particularly in California and the Northeast, deregulation was introduced in the late 1990's at the worst possible time. In the thriving economy, businesses demanded more electricity, and people built bigger homes and bought more gadgets, sharply narrowing the gap between available supplies of electricity and peak demand. Fuel for generation has also become more expensive, especially natural gas, whose price has doubled even as it has grown increasingly popular because it is cleaner than other fuels.

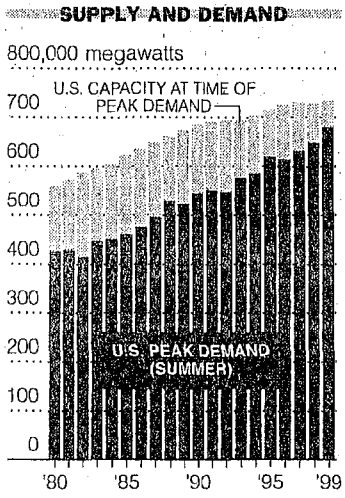
"I think that the expectation that deregulation will always give you lower prices is unrealistic," said John B. Ramil, president of the Tampa Electric Company, a unit of **TECO Energy** Inc. "Consumers think that competition will lead to lower prices automatically, when actually they will be paying market prices for power."

Advocates rallied support for electricity deregulation by asserting that it would deliver the choice and the low prices that deregulation of telecommunications has brought. But they forgot that the restructuring of the telephone industry, like power deregulation now, angered consumers early on, when local calling rates rose and the proliferation of choices baffled many people. Lawmakers and regulators took years to iron out the process, which is still going on. And because electricity is even more vital than telephones, there is far less tolerance for interruptions in service and volatile prices.

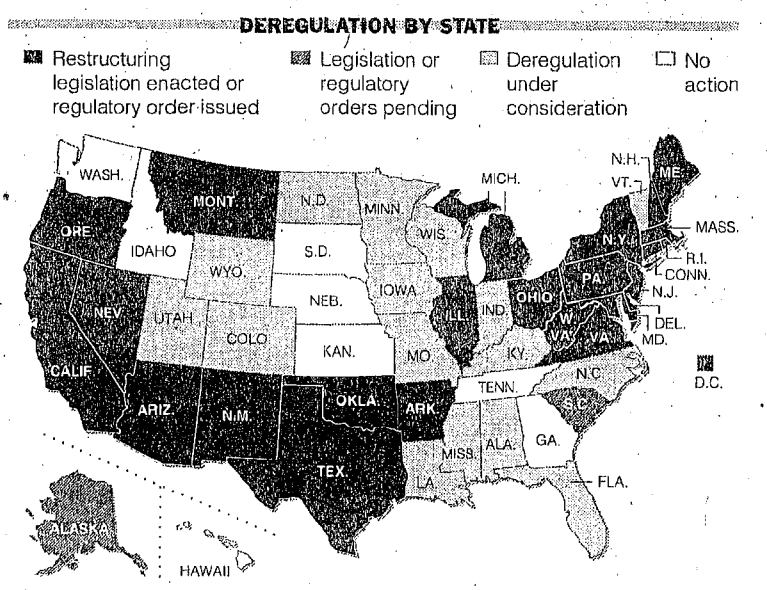
"You can't assume that you can deregulate in one year and sit back and watch how things work," said Barry Abramson, senior utility analyst with PaineWebber. "Regulators and utility officials have to come back frequently and correct problems they never expected until the system gets it right."

Approaching Electricity Deregulation More Cautiously

As some states struggle with tight supplies and high prices, others are moving more slowly on deregulation.



Sources: Edison Electric Institute; North American Electric Reliability Council; Energy Information Administration



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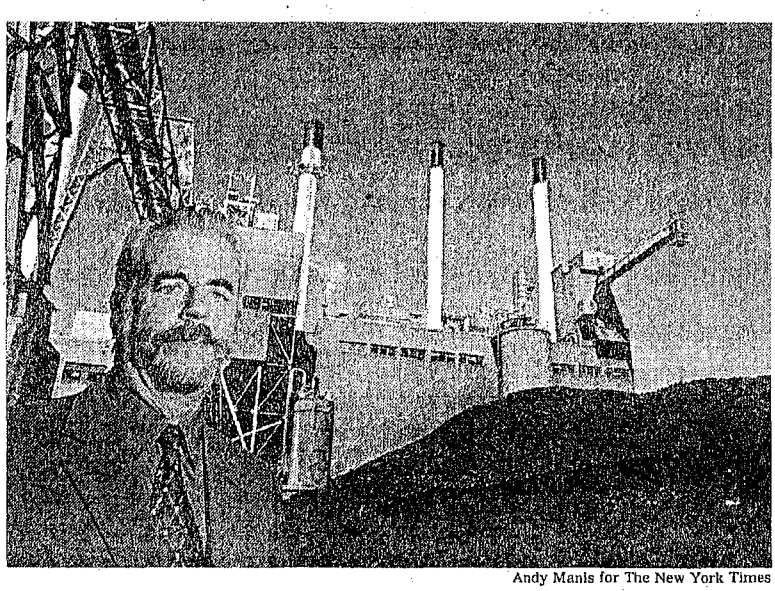

Andy Manis for The New York Times

Lee Cullen is a lawyer for Customers First, a Wisconsin consumer advocacy group. He stands outside the switching station and coal yard of Madison Gas and Electric in Madison, Wis.

Seeing an Example In Pennsylvania

So far, 24 states have tried some form of deregulation, but regulators and utilities in other regions say changes in their local electricity industry are inevitable, too.

Among states where deregulation has occurred, Pennsylvania has emerged so far as the place where the promises of competition and lower prices are being met most successfully. The state began to draw up a deregulation blueprint in 1996, around the same time California did, driven by electric rates in Philadelphia and other major cities double the average in the United States.

But Pennsylvania opted for a plan that calls for substantial government involvement in the market at every step. The state protected the utilities against losses from their older plants; in return utilities had to agree to freeze rates until 2006 at 1997 levels to protect consumers.

The state aggressively advertised a choice of new electricity providers. More important, it set the benchmark generation rates for traditional utilities at a fairly high level, which made some outside competitors' prices look favorable in comparison and which spurred consumers to choose new power providers.

As a result, more than 528,000 residential and business users, about 10 percent of the total, have switched to other providers that sell them power at a fixed price over long periods. A recent study by the State of Pennsylvania estimated that consumers have saved about $2.84 billion in energy costs over the last three years.

As consumers sought new power providers, those same companies began to build new plants in and near Pennsylvania, shoring up electricity reliability in the area. About 19,000 megawatts of power, adding 50 percent more capacity, are expected to come on line in Pennsylvania in the next five years.

Pennsylvania also cobbled together the independent system operator PJM from a network of neighboring states that could transmit power easily to one another, creating a grid third in size behind the entire transmission systems of France and of Japan.

Trying Rate Caps In California

Yet the lurching progress of deregulation in the country as a whole and the loss of old certainties like reliable power at steady prices have ignited a popular backlash in many areas, most vividly in California. There, the state has decided to cap rates in San Diego at 1999 levels for the next two years. Other Californians have urged a rollback of deregulation, demanding that power plants sold to private owners be placed under government control again.

The widespread short supply of electricity and the peculiarities of the commodity itself have given generation companies enormous leverage in the marketplace. Unlike most other goods, electricity cannot be stored to be used when there is a shortage. Nor is it something consumers can do without, which means the companies that supply people with electricity will pay just about any price to keep the lights on.

Most analysts say that the exercise of such influence is not illegal — nor unexpected — since companies can be expected to try to maximize their profits. But California's complex power buying mechanism has created a situation in which relatively small players have extraordinary influence.

On June 14, for example, the temperature in San Francisco hit 103 degrees and heat records were broken all over the Bay Area. The state's Independent System Operator, which coordinates transmission of electricity, predicted that during peak use on that weekday afternoon, California would need 43,000 megawatts. But reports from the power plants working that day showed only 36,000 megawatts available. As a result, the California I.S.O. paid $1,500 a megawatt to various plants that were not running; some of those plants had bet on a shortage and delayed generation until the price of power reached the cap.

"The world knows we'll make up that energy shortfall somewhere," said Spence Gerber, director of settlements at the I.S.O. "People go in and make their bids knowing we're not going to shut the lights off. We have no choice."

In California, rate freezes have prevented most utilities from passing on much of the higher price of power to consumers. In San Diego, however, the rate freezes were lifted just as the city strained under a heat wave. That led to the doubling of customers' bills in the span of a month.

One part of any long-term solution, experts say, is to increase the supply of electricity, through building new power plants and transmission lines. But few communities want power plants or transmission towers on their turf, adding to delays.

So far, states have relied on caps on the wholesale price of power to keep costs down. In California, the price cap, until recently, was $750 a megawatt, and in Pennsylvania, it is $1,000. But California officials concede that power plants sometimes get $1,500 a megawatt-hour — $750 for being on standby and $750 for the power itself.

Caps, if set too low, may dissuade companies from producing electricity and from building new power plants. "If you fix caps at $250, you have to realize that if in a neighboring state someone is offering $251 for power, you will have a serious shortage," said Richard Priory, chairman of Duke Energy, a nationwide power generation and trading company.

Given the complexities, deregulation, with its connotation of a laissez-faire management of an industry, seems a misnomer. The focus is now on reorganizing the electricity industry, rather than cutting it loose, and of using sophisticated forms of regulation to foster competition and efficiency.

"What we're looking at is re-regulation, regulation in a different manner than we had before," said Douglas Hale, senior economist with the Energy Information Administration in Washington. "Electricity is not one of those commodities that you can walk away from and let take care of itself. You need a central authority to make sure it doesn't all come crashing down."

In Wisconsin, rather than having the legislature adopt an overall plan, the central state authority has moved to revamp the transmission sector before tackling generation, the reverse of what most other states have done. The Midwest price spikes in 1998 revealed that while neighboring states were willing to provide power, there were not enough transmission lines in Wisconsin to bring it in. As a result, the Wisconsin government has compelled the state's four major utilities to surrender operation of their transmission lines to the Midwest Independent System Operator, which covers several states, to make sure all companies have equal access to power lines.

"The problem with the big bang in an industry like ours is that you take a large risk," said Larry Salustro, senior vice president of Wisconsin Electric. "Maybe in three years, the market will be better. But in those three years, people will go through difficult personal and financial times."

The transmission company will be responsible for building new lines to improve the importing of power, and though they own shares in the concern, no single utility controls it. Wisconsin plans to double transmission capacity in the next four or five years, by which time the state would be ready to deregulate generation.

"You won't have low prices unless you create an effective market structure," said Lee Cullen, counsel for Customers First, a Wisconsin consumer advocacy group. "Everybody can support competition as a superior system, but we're not rushing headlong into it."

Building safeguards against the volatility deregulation brings will clearly take years, as more generation — mostly in small natural-gas-fired power plants — starts up, as more power lines are built to move electricity to where it is needed most and as business and consumers respond to higher prices by finding ways to conserve power and limit use during peak periods.

Some businesses and the occasional residential customer have set up links with their utilities to respond to electricity prices in real time, by turning down lights or allowing air-conditioning to shut down briefly when a computer message informs them of price spikes. So far, however, such operations are rare.

"Until consumers can see and respond to real-time prices, price caps will remain a necessary evil," Mr. Borenstein said. "The dirty secret of restructuring is that it is replacing old forms of regulation with new ones."